

深圳市带飞通讯科技有限公司

Shenzhen Daifei Communication Technology Co., LTD

承認書 APPROVAL

客 户
CUSTOMER:

深圳市威尔乐电子厂

品 名 规 格
DESCRIPTION:

铜管天线-2.4G-1.13 黑
Copper tube antenna -2.4G-1.13 black

料 号
PART NO.:

客 户 料 号
CUS PART NO.:

日 期
D A T E:

2023-12-13

工 程 ENGINEERING DEPARTMENT	品 保 Q C DEPARTMENT	业 务 SALES DEPARTMENT
赵乐康	郑裕玲	赵乐康

客户承认签章(customer signature)

工 程 ENGINEERING DEPARTMENT	品 保 Q C DEPARTMENT	采 购 PURCHASING DEPARTMENT

联系电话(Contact number): 13728836054 E-mail: 2258619184@qq.com

※ 承认书一式三份, 惠蒙贵司承认签章

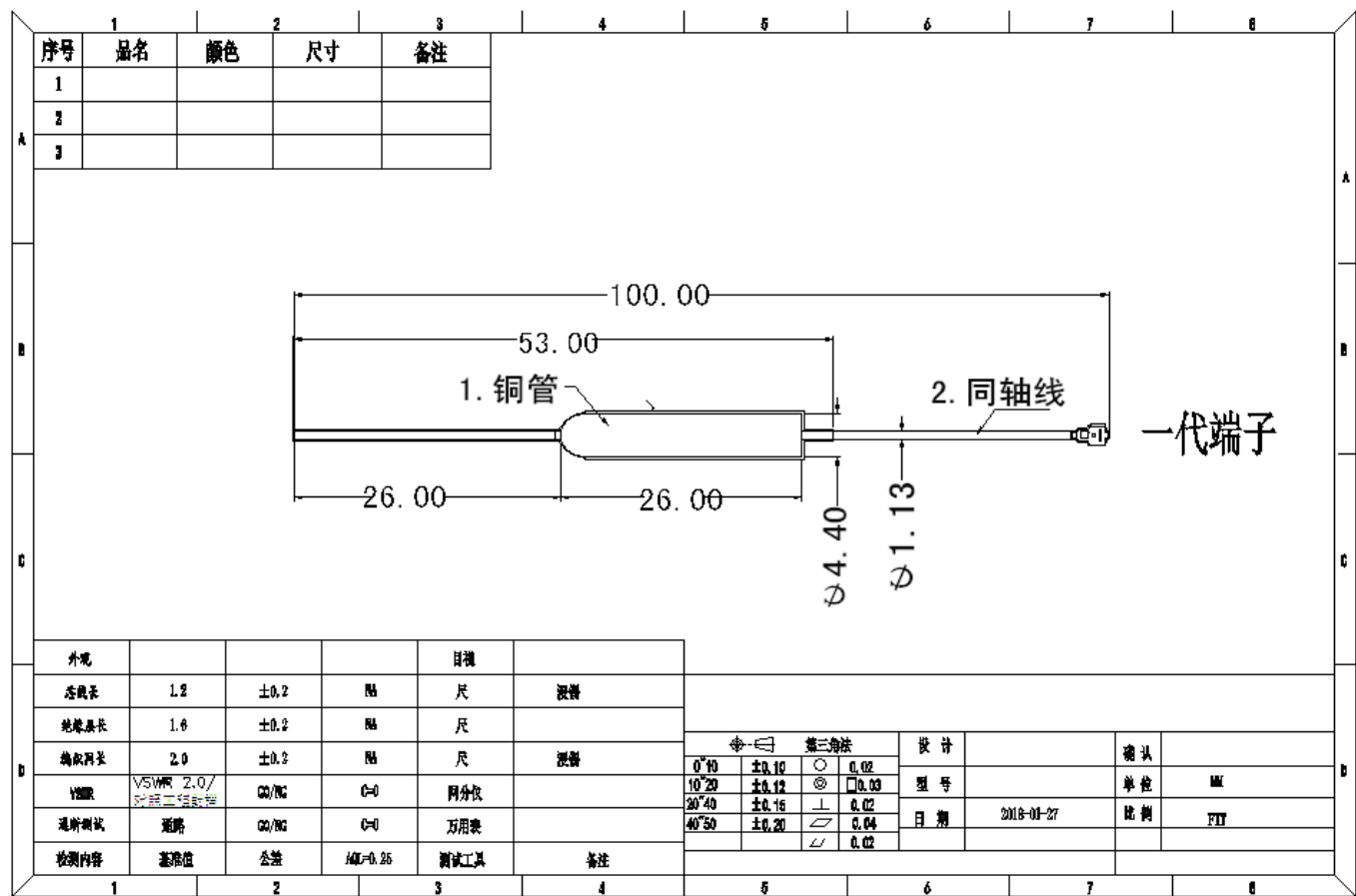
※ Approval in duplicate, please signed by your company.

Address:

Sub-district,

深圳市带飞通讯科技有限公司

1.天线结构图(Antenna structure diagram):



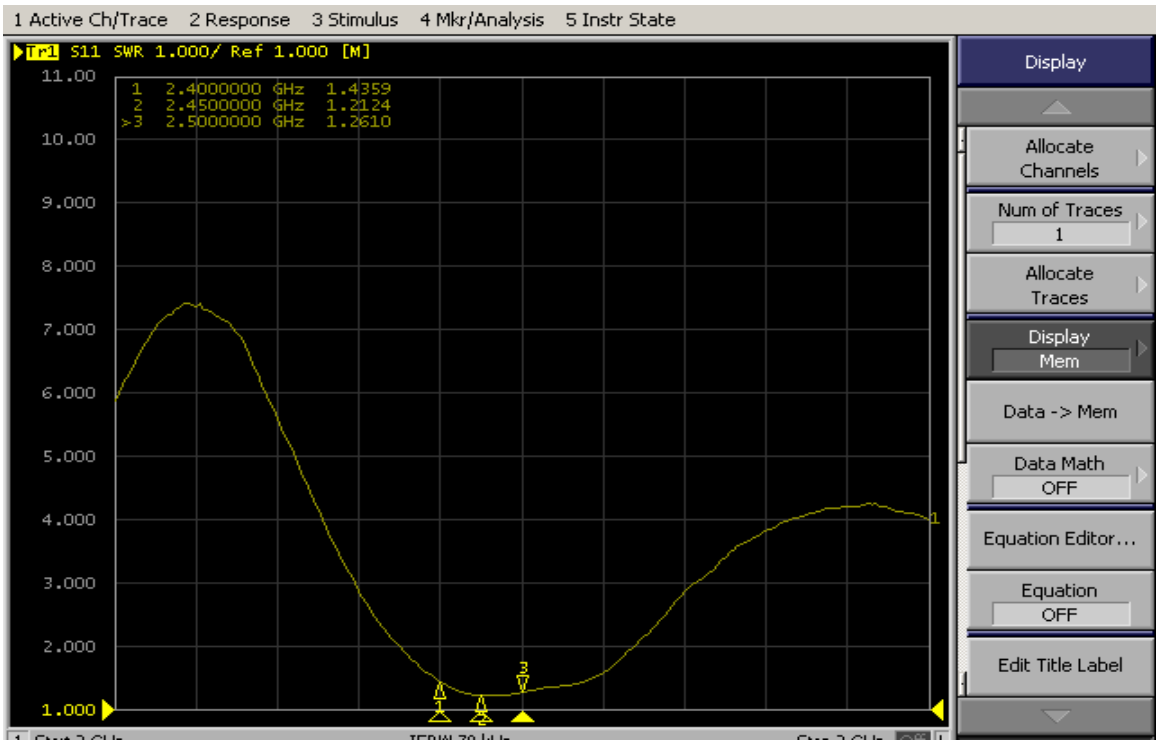
2.测试项目与设备 (Test items and equipment)

	测试项目(Test items)	设备 (equipment)
1. S11 参数 (S-parameter)	1. 回波损耗 (Return Loss) 2. 电压驻波比 (VSWR)	网络分析仪(network analyzer): Agilent E5071B HP 8753D
2. 有源测试 (Active)	1. 发射功率 (TRP) 2. 接收灵敏度 (TIS)	1. 暗室(darkroom): ETS 7x4x3 m (3D) Chamber ETS 5x3x3 m (3D) Chamber 2.综合测试仪(general-purpose tester): Agilent 8960 E5515B ×2 StarPoint SP6011
3.无源测试 (Passive)	1.天线增益 (Gain) 2.天线效率 (Efficiency)	1. 暗室(darkroom): ETS 7x4x3 m (3D) Chamber ETS 5x3x3 m (3D) Chamber 2. 网络分析仪(network analyzer): Agilent E5071B HP 8753D

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3.网络测试图(Network test diagram):



4.OTA-增益效率测试数据(OTA-Gain efficiency test data):

Passive Test For 2.4G										
Freq (MHz)	Effi (%)	Effi (dB)	Gain (dBi)	Gain (dBd)	UHS (%)	DHIS (%)	Max (dB)	Min (dB)	Attenut Hor	Attenut Ver
2300	39.64	-4.02	-0.03	-2.18	18.762	20.878	-0.03	-11.73	53.71	53.86
2310	41.22	-3.85	0.24	-1.91	19.442	21.782	0.24	-11.28	53.65	53.89
2320	40.5	-3.93	0.17	-1.98	18.968	21.527	0.17	-11.42	53.63	53.9
2330	43.06	-3.66	0.43	-1.72	19.951	23.112	0.43	-11.42	53.92	54.31
2340	46.94	-3.28	0.83	-1.32	21.66	25.282	0.83	-10.9	54.25	54.56
2350	46.75	-3.3	0.81	-1.34	21.444	25.309	0.81	-10.85	54.28	54.62
2360	44.75	-3.49	0.6	-1.55	20.352	24.397	0.6	-11.27	54.02	54.36
2370	40.39	-3.94	0.13	-2.02	18.261	22.129	0.13	-12.21	53.43	53.93
2380	41.52	-3.82	0.31	-1.84	18.467	23.053	0.31	-12.09	53.75	54.1
2390	39.07	-4.08	0.16	-1.99	17.233	21.832	0.16	-12.45	53.66	53.98
2400	42.6	-3.71	0	-2.15	21.785	20.815	0	-11.69	53.49	53.5
2410	46.09	-3.36	0.46	-1.69	23.766	22.324	0.46	-10.94	53.71	53.86
2420	47.12	-3.27	0.46	-1.69	24.159	22.964	0.46	-11.17	53.65	53.89
2430	46.35	-3.34	0.33	-1.82	23.755	22.596	0.33	-11.39	53.63	53.9
2440	49.56	-3.05	0.48	-1.67	25.347	24.212	0.48	-10.92	53.92	54.31
2450	53.44	-2.72	0.68	-1.47	27.27	26.169	0.68	-10.25	54.25	54.56
2460	53.52	-2.71	0.77	-1.38	27.321	26.201	0.77	-10.22	54.28	54.62
2470	51.68	-2.87	0.71	-1.44	26.281	25.402	0.71	-10.86	54.02	54.36
2480	46.93	-3.29	0.23	-1.92	23.621	23.304	0.23	-11.51	53.43	53.93
2490	49.41	-3.06	0.49	-1.66	24.599	24.815	0.49	-11.66	53.75	54.1
2500	47.24	-3.26	0.43	-1.72	23.405	23.837	0.43	-12.53	53.66	53.98